Curriculum vitae of Bibiana BIELEKOVA, M.D.

Born: March 19th, 1969, Bratislava, Slovak Republic
Citizenship: Slovak Republic
Visa status: US Permanent Resident

Institutional Affiliation:

Current address: Neuroimmunology Branch, NIH/NINDS; 10 Center Drive MSC 1400, Bld 10/Rm 5C103, Bethesda, MD 20892-1400, Tel: (301) 496-1801, Fax: (301) 402-0373, E-mail: Bibi.Bielekova@nih.gov
Position: Investigator; Chief, Neuroimmunological Diseases Unit

University degree: M.D. (1993) Comenius University School of Medicine, Bratislava, Slovakia

Educational History and Professional training:

Undergraduate:

1/ 1987-93; Comenius University School of Medicine, Bratislava, Slovakia, graduation "Summa cum laude" in top 1% of class.

2/ 1988-89; student-scientific fellow; Department of Biophysics, Comenius University School of Medicine, Bratislava, Slovakia.

3/ 1986-89; student-scientific fellow; Department of Neurology, Comenius University School of Medicine, Bratislava, Slovakia.

4/ 1989-93; student-clinical assistant; Department of Neurology, Comenius University School of Medicine, Bratislava, Slovakia.

5/ July 1, 1991 - September 30, 1991; medical and surgical electives at State University of New York, Health Science Center, Brooklyn, NY, USA

6/ August 1-31, 1992; pediatric elective with emphasis on child neurology, Uppsala University School of Medicine, Sweden

Postgraduate:

7/ July 1, 1993 - June 30, 1994; Medical internship (PGY1) at SUNY Health Science Center at Brooklyn, Kings County Hospital Center, Brooklyn VA Medical Center, NY, USA

8/ July 1, 1994 - June 30, 1997; Neurology residency (PGY 2-4) at Boston University School of Medicine, Department of Neurology, 720 Harrison Ave, Suite 707, Boston, MA 02118, USA

9/ July 7, 1997 – December 2, 2000; Neuroimmunology fellowship (PGY5-7) at NIH/NINDS - Neuroimmunology Branch, Bld10/Rm5C103, 10 Center Dr, Bethesda MD 20892-1400, USA

10/ October, 1997 - June, 1998; Core Course in Clinical Research at NIH, Bethesda MD, USA

11/ December 3, 2000 – September 16, 2005; Staff clinician NIH/NINDS - Neuroimmunology Branch, Bethesda MD, USA

12/ September 19, 2005 – January 14, 2008: Associate Professor of Neurology with tenure; Director, Waddell Center for MS, University of Cincinnati, Cincinnati, OH, USA

13/ January 15, 2008 – present: Investigator, Chief, Neuroimmunological Diseases Unit, Neuroimmunology Branch, NINDS/NIH, Bethesda, MD, USA

Teaching associations and appointments with professional schools:

1/ September 19, 2005 – January 14, 2008: Associate Professor of Neurology with tenure, University of Cincinnati, College of Medicine, Cincinnati, OH, USA

Licensure, specialty boards and clinical privileges:

1/ since June 28, 1995 till March 19, 2006; The Commonwealth of Massachusetts Board of Registration in Medicine - Licensure No. 81472.

2/ since April 17, 1998; Certified by The American Board of Psychiatry and Neurology in the medical specialty of Neurology - Certificate No. 45510.

3/ since September, 2005 till July 1, 2009: State of Ohio Medical License No. 35.086923

4/ since June 2009: State of Maryland Medical License No D0069458

Present and previous hospital affiliations/ practice sites:

1/ July 1, 1993 - June 30, 1994: State University of New York: University Hospital in Brooklyn - Department of Medicine, Kings County Hospital Center at Brooklyn - Department of Medicine, Brooklyn VA Medical Center - Department of Medicine, Brooklyn, NY, USA.

2/ July 1, 1994 - June 30, 1997: Boston University School of Medicine: University Hospital - Department of Neurology, VA Medical Center at Jamaica Plain, Boston - Department of Neurology, Boston, MA, USA.

3/ November 1, 1995 - July 1, 1997: VA Medical Center at Jamaica Plain, Boston - Department of Emergency Medicine, Boston, MA, USA.

4/ July 7, 1997 – September 16, 2005: NIH Warren Magnuson Clinical Center, Bethesda, MD, USA

5/ September 19, 2005- January 14, 2008: University Hospital, College of Medicine, University of Cincinnati; Aring Neurology Group, Medical Arts Building, 222 Piedmont Ave Suite 3200, Cincinnati, OH 45219

6/ January 15, 2008 – present: NIH Warren Magnuson Clinical Center, Bethesda, MD, USA

Honors and awards:

1/ 1988-93; top 5% annual recipient of the Dean's Award, Comenius University School of Medicine, Bratislava, Slovakia.

2/ 1989; Czecho-Slovak Medical Students National Scientific Conference winner for work: EEG power spectra mapping - problem of normative data. Bratislava, Slovakia.

3/ Graduation Sub auspices-summa cum laude with Award of the President of the Comenius University for the best student of the class of 1993

4/ 1997: Boston University school of Medicine - Department of Neurology Award to Outstanding Resident in the Graduating Class; Boston, USA

5/ 1998: International Society of Neuroimmunology - Travel award for the Fifth International Congress, Montreal, Canada (1998)

6/ FARE Award for Research Excellence; NIH, Bethesda, USA (1999)

7/ NINDS Competitive Intramural Research Award; NIH, Bethesda, USA (4/1/99 – 12/00)

8/ FARE Award for Research Excellence; NIH, Bethesda, USA (2001)

9/ Award for Best poster: NIH-wide Immunology Retreat sponsored by Immunology Interest group; Arlie, VA, USA (2002)

10/ The Federation of Clinical Immunology Societies (FOCIS) Travel Award (2003)

11/ The International Society of Neuroimmunology (ISN) Travel Award (2004)

12/ Millennium scholar, University of Cincinnati (2005)

13/ The International Society of Neuroimmunology (ISN) Travel Award (2006)

14/ Ohio Senate Commendation (2006)

15/ Cincinnati Business Courier's Forty Under 40 Award (2006)

16/ NINDS Group Merit Award (2008)

Scientific Society and Consortia Membership:

1/ since 1995: American Academy of Neurology (AAN)

2/ since 1996: SVU - Czechoslovak Society for Arts and Sciences

3/ since 1998: International Society of Neuroimmunology (ISNI)

4/ since 2010: American Neurological Association (ANA): active member

Patent applications:

1/ U.S.A. patent application E-077-00/0; Foreign filing USSN 60/259,270: Combined inhibition of phosphodiesterase-4 (PDE-3) and phosphodiesterase-3 (PDE-3) as a therapy for Th1 mediated

autoimmune diseases. Filed 12/22/2000. Inventors: Bielekova, B., Martin, R., and McFarland, H.

2/ U.S.A. Patent Application S.N. 60/393 021: Method of treating autoimmune diseases with Interferon-beta and an IL-2R antagonist. Filed 6/28/2002. Inventors: Martin, R., Bielekova, B., McFarland, H. *Licensed*

3/ U.S.A. Patent Application NIH (DHHS) Ref. No. 60/393,021: Method to identify therapeutic agents. Filed 3/26/2004. Inventors: Bielekova, B., Martin, R., McFarland, H. and Waldmann, T. *Licensed.*

4/ U.S.A. Patent Application No. 61/201,589: Agents that selectively inhibit CD25 on dendritic cells or T cells and their use. Filed 12/12/2008. Inventors: Bielekova, B., Edwan, J. and Martin, J.

5/ E.U. Patent Application No: Quinone derivative 2,3-dimethoxy-5-methyl-6-(10-hydroxydecyl)-1,4-benzoquinone for the treatment of primary progressive multiple sclerosis. Filed 5/4/2009. Inventors: Bielekova, B., McFarland, H. and Meier, T.

Past grant support:

1/ Immune responses to apoptotically-modified CNS-expressed antigens in patients with Multiple Sclerosis. Pilot grant funding from The Neurological Institute (TNI), Cincinnati, OH; 12/2005-12/2006: $25,000

2/ Neuroprotective effects of soluble immune mediators. Pilot grant funding from The Neurological Institute (TNI), Cincinnati, OH; 12/2006-12/2007: $24,615

3/ Immunoregulatory NK cells in Multiple Sclerosis. 1RO1NS058798-01A1 NIH 9/30/07-8/31/2012: $341,250/year projected $1,706,250 for 5 years

Community/professional service:

Journal reviewer:
Neurology, Annals of Neurology, Journal of Neuroimmunology, New England Journal of Medicine, Blood, Archives of Neurology, Journal of Neurological Sciences, Brain, Epilepsy research, Lancet Neurology, Journal of Immunology, Clinical Immunology, Expert Review of Clinical Immunology

Grant reviewer:
French National MS Society, Canadian NMSS, Center for Scientific Review, NIH (challenge grants 2009), VA Merit review Aging/Neurodegenerative Diseases Panel (8/2010), French National Institutes of Health (2010)

Others:
Member of steering committee for NIH Center for Human Immunology (CHI) (since 2008)
Member of NINDS retreat organizing committee (2008)
Member of organizing committee for CHI inaugural conference (2008)
Member of organizing committee for CHI clinical conference (2009)
Member of NINDS statistician search committee (2009)
Member of NINDS tenure-track/tenure clinician-scientist search committee (2009)
Member of NIH-wide search committee for Earl Stadtman Investigators in area of Immunology (2009,

2010)
Member of NINDS search committee for clinical tenure track investigator (2009, 2010)
Member of NINDS mentoring committee (2010)

LIST OF PUBLICATIONS:

Original research articles:

1/ Jiang H., Bielekova, B., Okazaki H., Clarence-Smith, K., Johnson, KP., Bergey, G., Martin, R. and Dhib-Jalbut, S.: The effect of vesnarinone on TNF-α production in human peripheral blood mononuclear cells and microglia: a pre-clinical study for the treatment of multiple sclerosis. Journal of Neuroimmunology 1999; 97:134-145

2/ Bielekova, B., Muraro PA., Golestaneh, L., Pascal, J., McFarland H. and Martin R.: Preferential expansion of autoreactive T lymphocytes from the memory T cell pool by IL-7. Journal of Neuroimmunology 1999; 100: 115-123

3/ Hemmer, B., Gran, B., Marquez, A., Pinilla, C., Zhao, Y., Kondo, T., Cortese, I., Bielekova, B., Straus, S., McFarland, HF., Houghten, R., Simon, R., and Martin, R. Identification of candidate T-cell epitopes and molecular mimics in chronic lyme disease. Nature Medicine 1999 Dec; 5(12): 1375-1382

4/ Bielekova, B., Lincoln, A., McFarland, H. and Martin, R. Therapeutic Potential of Phosphodiesterase-4 and –3 Inhibitors in Th1-Mediated Autoimmune Diseases. Journal of Immunology 2000; Jan 15, 164(2): 1117-1124

5/ Holz, A., Bielekova, B., Martin, R., and Oldstone, M.: Myelin-Associated Oligodendrocytic Basic Protein: Identification of an Encephalitogenic Epitope and Association with Multiple Sclerosis. Journal of Immunology 2000; Jan 15, 164(2): 1103-1109

6/ Muraro, P., Pette, M., Bielekova, B., McFarland, H. and Martin, R.: Human Autoreactive T cells from Naive CD45RA+ and Memory CD45RO+ Subsets Differ with Respect to Epitope Specificity and Functional Antigen Avidity. Journal of Immunology 2000; May 15, 164:5474-5481

7/ Bielekova, B., Goodwin, B., Richert, N., Cortese, I., Kondo, T., Afshar, G., Gran, B., Eaton, J., Antel, J., Frank, J., McFarland, H. and Martin, R.: Encephalitogenic Potential of Myelin Basic Protein Peptide (83-99) in Multiple Sclerosis – Results of a phase II clinical trial with an altered peptide ligand. Nature Medicine 2000: Oct; 6(10): 1167-1175

8/ Muraro, P., Leist, T., Bielekova, B., and McFarland, H.: VLA-4 /CD49d downregulated on primed T lymphocytes during interferon-β therapy in multiple sclerosis. Journal of Neuroimmunology 2000: Nov; 111: 186-194

9/ Gran, B., Tranquill, L., Chen, M., Bielekova, B., Zhou, W., Dhib-Jalbut, S. and Martin, R.: Mechanisms of Immunomodulation by Glatiramer acetate. Neurology 2000: Dec 1; 55:1704-1714

10/ Wandinger, K., Stuerzebecher, S., Bielekova, B., Detore, G., Rosenwald, A., Staudt, L., McFarland, H. and Martin, R.: Complex immunomodulatory effects of Interferon-β in multiple sclerosis include the upregulation of T helper 1-associated marker genes. Annals of Neurology 2001: September; 50: 349-357

11/ Muraro, P., Wandinger, K., Bielekova, B., Gran. B., Marquez, A., Utz, U., McFarland, H., Jacobson, S. and Martin, M.: T cell receptor clonotype tracking links the expansion of CD4+ and CD8+ T cell clones to disease activity in neurological immune-mediated disorders. Brain 2003: 126:20-31

12/ Marcovic-Plese, S., Bielekova, B., Kadom, N., Leist, T., Martin, R. Frank, J. A. and McFarland, H.: The effects of Azathioprine in MS patients refractory to interferon β-1b. Longitudinal MRI study. Neurology 2003: 60:1849-1851

13/ Bomprezzi, R., Ringner, M., Kim, S., Bittner, M., Khan, J., Chen, Y., Elkahloun, A., Yu, A.,

Bielekova, B., Meltzer, P., Martin, R., McFarland, H. and Trent, J.: Gene Expression Profile in Multiple Sclerosis Patients and Healthy Controls: Identifying Pathways Relevant to Disease. Human Molecular Genetics 2003: 12:17: 2191-2199

14/ Bielekova, B., Sung, M-H., Kadon, N., Simon, R., McFarland, H. and Martin, R.: Expansion and Functional Relevance of High-Avidity Myelin Specific T Cells in Multiple Sclerosis. Journal of Immunology 2004: 172: 3893-3904

15/ Bielekova, B., Howard, T., Blevins, G., Richert, N., Markovic-Plese, S., Scrivner-Reichert, S., Wurfel, J., Waldmann, T. A., McFarland, H. and Martin, R.: Humanized Anti-CD25 (Daclizumab) Inhibits Disease Activity in Multiple Sclerosis Patients Failing to Respond to Interferon-beta. Proceedings of the National Academy of Sciences, USA 2004: 10: 23: 8705-8708

16/ Bielekova, B., Kadom, N., Jeffries, Fisher, E., Howard, T., Ohayon, J., N., Richert, N., Bash, C. N., Frank, J., Stone, L., Martin, R., Cutter, G. and McFarland, H.: MRI as a Marker for Disease Heterogeneity in MS. Neurology 2005: 65 (7): 1071-1076

17/ Bielekova, B., Catalfamo, M., Scrivner-Reichert, S., Packer, A., Cerna, M., Waldmann, T.A., Henkart, P., McFarland, H. and Martin, R.: Regulatory $CD56^{bright}$ natural killer cells mediate immunomodulatory effects of IL-2Rα-targeted therapy (daclizumab) in multiple sclerosis. Proceedings of the National Academy of Sciences, USA 2006: 103: 15: 5941-5946

18/ Bielekova, B., Howard, T., Packer, A., Richert, N., Blevins, G., Ohayon, J., Waldmann, T. A., McFarland, H. And Martin, R.: The anti-CD25 Antibody Daclizumab Inhibits Inflammation and Stabilizes Disease Progression in MS. Archives of Neurology 2009: 66(4): 483-489

19/ Bielekova, B., Richert, N., Howard, T., Packer, A.T., Blevins, G., Ohayon, J., McFarland, H., Stürzebecher, C-S. and Martin, R.: Treatment with the phosphodiesterase type 4 inhibitor rolipram fails to inhibit blood brain barrier disruption in MS. Multiple Sclerosis 2009: 15(10): 1206-1214

20/ Martin, M., Perry, J., Jakhete, N., Wang, X and Bielekova, B.: An IL-2 paradox: Blocking CD25 on T Cells Induces IL-2-driveb Activation of $CD56^{bright}$ NK cells. Journal of Immunology 2010: 185(2):1311-1320

Review articles:

1/ Bielekova, B. and Martin R.: Multiple Sclerosis: Immunotherapy. Current Treatment Options in Neurology 1999; 1:201-219

2/ Martin, R., Bielekova, B., Gran, B., McFarland, H.: Lessons from studies of antigen-specific T cell responses in multiple sclerosis. Journal of Neural Transmission 2000: Nov; S361-374

3/ Martin, R., Gran, B., Zhao, Y., Markovic-Plese, S., Bielekova, B., Marques, A., Sung, M.H., Hemmer, B., Simon, R., McFarland, H. and Pinilla, C.: Molecular mimicry and antigen-specific T cell responses in Multiple Sclerosis and chronic CNS lyme disease. Journal of Autoimmunity 2001: May; 16(3): 187-192

4/ Bielekova, B. and Martin, R.: Antigen-specific immunomodulation via altered peptide ligands. Journal of Molecular Medicine 2001: 79: 552-565

5/ Bielekova, B. and Martin, R.: Development of biomarkers in MS. Brain 2004: 127: 7: 1463-1478

6/ Martin, R., Bielekova, B., Hohlfeld, R. and Utz., U.: Biomarkers in Multiple Sclerosis. Disease

Markers 2006: 22 (4): 183-185

7/ Muraro, P. and Bielekova, B.: Emerging therapies for MS. Neurotherapeutics 2007: October 4 (4): 676-692

8/ Bielekova, B. and Becker, B.L.: Monoclonal antibodies in MS: mechanisms of action. Neurology 2010: 74 (Suppl 1): S31-S40

9/ Nussenblatt, R. B., Bielekova, B., Childs, R., Krensky, A., Strober, W and Trinchieri, G.: Meeting the human immunology challenge. National Institutes of Health Center for Human Immunology Conference September 2009. Annals of NY Academy of Sciences 2010: 1200 Suppl 1: E1-E23

Books/Book chapters:

1/ Muraro, P.A., Bielekova, B.: The "naïve" and "memory" MBP-reactive CD4+ T cell repertoire: implications for the autoimmune concepts in multiple sclerosis. In: Advances in the Immunopathogenesis of Multiple Sclerosis; edited by Gambi, D., Muraro, P.A. and Lugaresi, A. Springer-Verlag Italia, Milano 1999; 11-20. SPIN 10737528

2/ Bielekova, B.: Imunitne podmienene ochorenia nervoveho systemu (Immunologically-mediated diseases of the nervous system). In: Neurologia II (In Slovak, Neurology textbook for medical students and Neurology Boards); edited by Varsik, P. Lufema, Bratislava 1999; 211-258. ISBN 80-967991-6-9

3/ Martin, R., Bielekova, B., Gran, B. and McFarland, H.: Lessons from studies of antigen-specific T cell responses in Multiple Sclerosis. In: Advances in Research on Neurodegeneration. Volume 8. Springer-Verlag Austria, Wien 2000; 361-373. ISBN 3-211-83538-5

4/ Bielekova, B., Martin, R.: Specific Immunotherapy by Altered Peptide Ligands – Risk or Benefit? In: Ernst Schering Research Foundation Workshop Supplement 7 – New Concepts in Pathology and Treatment of Autoimmune Disorders; edited by Pozzilli, C., Pozzilli P. and Kapp. J.F. Springer-Verlag Germany, Heidelberg 2001; 69-87. ISBN 3-540-41479-7

5/ Bielekova, B.: Chapter 5: Imunitne podmienene ochorenia nervoveho systemu (Immunologically-mediated diseases of the nervous system). In: Repetitorium Specialnej Neurologie (In Slovak, Neurological subspecialty textbook); edited by Varsik, P. S+S typografik, Bratislava 2003; 131-149. ISBN 80-968663-4-6

Published abstracts:

1/ Brezny, I., Bielekova, B., Sabaka, Z.: EEG power spectra mapping. Reference electrode effects. Electroenceph. Clin. Neurophysiol., 70, 5P-6P (1988)

2/ Brezny, I., Bielekova, B., Lisicka, D., Klindova, D., Volovarova, S.: Amplitude-frequency spectra mapping. Problems of the normative data. (In Slovak), In: Proceeding from 36th Czecho-Slovak congress of EEG and Clinical Neurophysiology, Kosice (1989)

3/ Brezny, I., Bielekova, B., Klindova, D., Volovarova, S., Lisicka, D.: Mapping of the amplitude-frequency spectra. In: Proceedings from the 12th International Joint Annual Meeting of Societies for the EEG and Clinical Neurophysiology., Krakow, Poland (1989)

4/ Bielekova, B., Klindova, D.: Mapping of the EEG amplitude spectra. Normative data. In: Pro-ceedings from the Annual Medical students scientific conference., Pecs, Hungary (1989)

5/ Muraro, PA.; Pette, M.; Pette, DF.; Bielekova, B.; Afshar, G.; McFarland, HF.; Martin, R.: T cell Response to Myelin Basic Protein from the CD45RA+/RO- "Naïve" vs. CD45RA-/RO+ "Memory" CD4+ Subsets in Multiple Sclerosis. In: Proceeding from 1998 AAN meeting, Minnesota, USA (1998)

6/ Muraro, PA; Bielekova, B.; Pette, M.; Afshar, G.; Pette, DF.; McFarland, H.; Martin, R.: Assessment of a "naïve" vs. "memory" origin of human autoreactive CD4+ T cell clones specific for Myelin Basic Protein (MBP). International Society of Neuroimmunology - Fifth International Congress, Montreal, Canada (1998)

7/ Bielekova, B.; Muraro, PA.; McFarland, H.; Martin, R.: IL-7 modified primary proliferation as a method for generation of antigen-specific T cell lines (TCL) preferentially from the pool of memory T lymphocytes. International Society of Neuroimmunology - Fifth International Congress, Montreal, Canada (1998)

8/ Bielekova, B.; McFarland, H.; Martin, R.: Multiple sclerosis - following the autoreactive T-lymphocytes. 19th World congress of Czecho-Slovak Society of Arts and Sciences, Bratislava, Slovakia (1998)

9/ Bielekova, B.; Lincoln, A.; McFarland, H.; Martin, R.: PDE-4 inhibitors as a potential new treatment of TH1-mediated autoimmune disorders - comprehensive analysis of the effects of Rolipram on human immune cells. In: Proceeding from NIH Immunology Retreat, Bethesda, USA (1998)

10/ Cortese, I., Bielekova, B., Mandler, R., McFarland, H., Martin, R.: Effects of PDE-4 inhibitors on T-cell signal transduction. In: Proceeding from NIH Immunology Retreat, Bethesda, USA (1998)

11/ Bielekova, B., Lincoln, A., McFarland, H. and Martin, R.: PDE inhibitors as an emerging therapy of multiple sclerosis. Comprehensive pre-clinical analysis of their effect on human immune cells. In: Proceeding from 1999 AAN meeting , Toronto, Canada (1999)

12/ Muraro, P., Leist, T., Bielekova, B., Gambi, D. and McFarland, H.: In vivo effects of treatment with Interferon beta-1b on the expression of VLA-4 on T lymphocyte subsets of multiple sclerosis patients. In: Proceeding from ENS meeting, Milano, Italy (1999)

13/ Martin, R., Bielekova, B., Wandinger, KP. and McFarland, H.: Antigen-specific proliferation and cytokine expression as surrogate endpoints for highly specific and global immunotherapies of autoimmune diseases. In: Biomarkers and surrogate endpoints. Advancing clinical research and applications. NIH, Bethesda, USA (1999)

14/ Bielekova, B., Cortese, I., Gran, B., McFarland, H., and Martin, R.: Immunotherapy with an altered

peptide ligand based on MBP (83-99) reveals the presence of high avidity autoreactive CD4+ T cells in an MS patient. In: Proceeding from NIH Immunology Retreat, Bethesda, USA (1999)

15/ Gran, B., Hemmer, B., Zhao, Y., Marques, A., Tzou, A., Kondo, T., Cortese, I., Bielekova, B., Straus, S., McFarland, H., Simon, R., Pinilla, C., and Martin, R.: Identification of candidate T-cell epitopes and molecular mimics in autoimmune and infectious diseases: a new strategy. In: Proceeding from NIH Immunology Retreat, Bethesda, USA (1999)

16/ Bielekova, B., Goodwin, B., Richert, N., McFarland, H., and Martin, R.: Antigen-Specific Immunomodulation Confirms the Encephalitogenic Potential of Myelin Basic Protein Peptide (83-99) in Multiple Sclerosis. In: Proceeding from 2000 AAN meeting S23.001, San Diego, California, USA (2000)

17/ Gran, B., Bielekova, B., McFarland, H., and Martin, R.: Development of Multiple Sclerosis after Hepatitis B vaccination: an Immunologic Case Report. In: Proceeding from 2000 AAN meeting P03.013 ,San Diego, California, USA (2000)

18/ Bielekova, B., Muraro, P., Wandinger, K., and Martin, R.: APL therapy leads to breaking of peripheral tolerance of encephalitogenic T cells in a multiple sclerosis patient. In: D4 Keystone Symposia Abstract Book #206, Taos, New Mexico, USA (2001)

19/ Bielekova, B., Kadom, N., McFarland, H. and Martin, R.: Immunoreactivity to different autoantigens in MS patients influences their disease phenotype. International Society of Neuroimmunology - Sixth International Congress, In: Journal of Neuroimmunology 118/1, Abstract #242, Edinburg, Scottland (2001)

20/ Muraro, P., Wandinger, K.P., Bielekova, B., Gran, B., Marques, A., McFarland, H., Jacobson, S. and Martin, R.: T cell clonotype tracking (TCCT) links autoreactive T cell expansion to disease activity in neurological immune-mediated disorders. In: Proceeding from NIH Immunology Retreat, Abstract #119, Bethesda, USA (2001)

21/ Cortese, I., Bielekova, B., Mandler, R., Ahmad, F., Manganiello, V. and Martin, R.: Modulation of T cell receptor activation by phosphodiesterase type-4 inhibition. In: Proceeding from NIH Immunology Retreat, Abstract #139, Bethesda, USA (2001)

22/ Bielekova, B., Kadom, N., McFarland, H. and Martin, R.: Immunoreactivity to different autoantigens influences the disease phenotype of Multiple Sclerosis. In: Proceeding from NIH Immunology Retreat, Abstract#15, Bethesda, USA (2001)

23/ Bielekova, B., Kadom, N., McFarland, H. and Martin, R.: T cell reactivity to certain myelin epitopes may confer immunoregulatory, rather than encephalitogenic role in Multiple Sclerosis patients. In: D1 Keystone symposia abstract book, Steamboat Springs, Colorado, USA (2002)

24/ Muraro, P., Wandinger, K. P., Bielekova, B., McFarland, H. and Martin, R.: T cell clonotype tracking elucidates the dynamics of clonal T cell expansions in neurological immune-mediated disorders. In: Proceedings from 2002 AAN annual meeting, P01.133; Denver, Colorado, USA (2002)

25/ Bielekova, B., Kadom, N., Frank, J., McFarland, H. and Martin, R.: Immunoreactivity to myelin epitopes differs between MS patients subgrouped based on MRI and clinical characteristics of the disease. In: Proceedings from 2002 AAN annual meeting, S33.001; Denver, Colorado, USA (2002)

26/ Marcovic-Plese, S., Bielekova, B., Kadom, N., Richert, N., Leist, T., Martin, R. and McFarland, H.: Longitudinal MRI study on the effect of Azathioprine in refractory relapsing-remitting MS. In: Proceedings from 2002 AAN annual meeting, S62.002; Denver, Colorado, USA (2002)

27/ Bielekova, B., Scrivner, S., Ohayon, J., Richert, N., Waldmann, T., McFarland, H. and Martin, R.:

Combination therapy of Multiple Sclerosis patients failing Interferon-beta with humanized antibody against the interleukin-2 receptor alpha chain. In: Proceedings from Federation of Clinical Immunology Societies (FOCIS) Annual meeting, San Francisco, CA, USA (2002)

28/ Bielekova, B., Scrivner, S., Wuerfel, J., Ohayon, J., McCartin, J., Richert, N., Frank, J., Waldmann, T., McFarland, H. and Martin, R.: Combination therapy of MS patients with incomplete response to Interferon-beta with humanized antibody against the interleukin-2 receptor alpha chain. Multiple Sclerosis: Supplement 1, September 2002: S4: 10. ACTRIMS-ECTRIMS 2002, Baltimore, MD, USA (2002)

29/ Muraro, P., Wandinger, K., Bielekova, B., McFarland, H. and Martin, R.: Molecular Tracking of Myelin Basic protein-Specific T cell Expansion in Multiple Sclerosis. Multiple Sclerosis: Supplement 1, September 2002: S51: P98. ACTRIMS-ECTRIMS 2002, Baltimore, MD, USA (2002

30/ Bielekova, B., Sung, MH., Kadom, N., McFarland, H and Martin, R.: Heterogeneity of MS: Dominant antigen-specificity of autoreactive CD4+ T cells influences MRI and clinical phenotype of the disease. Proceedings from NIH-wide Immunology Interest Group Retreat, Arlie, VA, USA (2002)

31/ Bielekova, B., Reichert-Scrivner, S., McFarland, H., and Martin, R.: Mechanism of action of Multiple Sclerosis treatment by Zenapax, a humanized monoclonal antibody against the interleukin-2 receptor alpha-chain. In: Proceedings from 2003 AAN annual meeting, Hawai, USA (2003)

32/ Bielekova, B., Reichert-Scrivner, S., McFarland, H., and Martin, R.: Mechanism of action of Daclizumab, a humanized monoclonal antibody against CD25 in the treatment of MS. In: Clinical Immunology Abstract Supplement 1: S186: 668. Proceedings from Federation of Clinical Immunology Societies (FOCIS) Annual meeting, Paris, France (2003)

33/ Bielekova, B., Reichert-Scrivner, S., Cerna M., McFarland, H., and Martin, R.: $CD56^{bright}$ NK cells mediate immunomodulatory effects of IL-2Rα-targeted therapy in multiple sclerosis. In: Journal of Neuroimmunology 2004: 154: 1-2: 211; Abstract # 699 Special Issue: Abstracts from the 7th International Society of Neuroimmunology Seventh International Congress, Venice, Italy (2004)

34/ Bielekova, B., Catalfamo, M., Reichert-Scrivner, S., Packer, A., Cerna M., Waldmann, T. A., McFarland, H., Henkart, P. and Martin, R.: Successful Therapy of Multiple Sclerosis (MS) Targeting High Affinity IL-2 Receptor Reveals Regulatory Role of $CD56^{bright}$ NK cells on T cell Responses in Humans. In: Journal of Neuroimmunology 2006: 178: Supplement 1: 54; Abstract WS06-02: Abstracts from the 8th International Congress of Neuroimmunology, Nagoya, Japan (2006)

35/ Bielekova, B., Orlowski, R., Howard, T., Richert, N., Martin, J., Edwan, J., Ohayon, J., McFarland, H. and Martin, R.: Treatment of MS patients with selective PDE-4 inhibitor Rolipram inhibits Th1/Th17 T cell responses but fails to inhibit brain inflammatory activity. In: Proceeding from 2008 AAN annual meeting, S22:001, Chicago, USA

36/ Martin, J., Orlowski, R and Bielekova, B.: Discordance between inhibitory effects of rolipram on Th1/Th17 T cell responses in MS and its lack of efficacy on brain inflammation. In: Journal of Neuroimmunology 2008: 203: Issue 2 (2008): 129: Abstracts from the 9th International Congress of Neuroimmunology, Forth Worth, Texas, USA

37/ Edwan, J., Martin, J., Perry, J and Bielekova, B.: CD25, a molecule linked to MS susceptibility, has important effects on initiation and termination of T cell responses in humans. In: Proceedings from 2009 AAN annual meeting, S06:006, Seattle, USA

38/ Martin, J., Perry J., Jakhete, N.R., Wang, X and Bielekova, B.: An IL-2 paradox: Blocking CD25 on T cells induces IL-2-driven activation of $CD56^{bright}$ NK cells. In: Proceedings from 2010 AAN annual

meeting, P04.202, Toronto, Canada

39/ Evangelou, I.E., Richert, N.D., Chase, Ch., Jacobson, S., Bielekova, B., Reich, D.S.: Increased conspicuity of cervical spinal cord lesions in multiple sclerosis on Multiple-Echo Recalled Gradient Echo (MERGE) images at 3T. In: Proceedings from 2010 AAN annual meeting, IN7-2.007, Toronto, Canada

40/ Perry, J., Han, S., Kennedy, L., Bielekova, B.: Opposing regulation between inflammation-promoting lymphoid tissue inducer (LTi) cells and immunoregulatory $CD56^{bright}$ NK cells underlies therapeutic benefit of daclizumab in MS. In: Proceedings from International Society of Neuroimmunology Congress, Barcelona, Spain (October 2010)

41/ Wuest, S., Martin, J., Han, S., Perry, J., Waldmann, T. Bielekova. B.: Important role for IL-2 trans-presentation in the induction of antigen-specific T cell responses by dendritic cells. In: Proceedings from Keystone Symposia on Molecular and Cellular Biology: Dendritic cells and the initiation of adaptive immunity. Santa Fe, New Mexico, USA (February 2011)

42/ Gaitan, M., Shea, C., Evangelou, I., Stone, R., Fenton, K., Bielekova, B., Massacesi, L., Reich, D.: Evolution of blood-brain-barrier disruption in newly forming multiple sclerosis lesions. In: Proceedings from Keystone Symposia on Molecular and Cellular Biology: Genetics, Immunology and Repair in Multiple Sclerosis. Taos, New Mexico, USA (February 2011)

43/ Herman, M., Kashani, A., Bielekova, B.: Cytokines in the cerebrospinal fluid and soluble IL-2Rα in the serum of multiple sclerosis patients under daclizumab therapy. In: Proceedings from Keystone Symposia on Molecular and Cellular Biology: Genetics, Immunology and Repair in Multiple Sclerosis. Taos, New Mexico, USA (February 2011)

44/ Xu, Q., Bielekova, B.:The antigenic specificities of cerebrospinal fluid (CSF) antibodies in patients with multiple sclerosis. In: Proceedings from Keystone Symposia on Molecular and Cellular Biology: Genetics, Immunology and Repair in Multiple Sclerosis. Taos, New Mexico, USA (February 2011)

Oral presentations/lectures/others:

1/ IL-7 modified primary proliferation as a method for generation of antigen-specific T cell lines preferentially from the pool of memory T lymphocytes. Platform presentation at Fifth World Congress of International Society of Neuroimmunology; Montreal, Canada (6/1998)

2/ Multiple sclerosis – following the autoreactive T-lymphocytes. Platform presentation at 19th congress of Czecho-Slovak Society of Arts and Sciences; Bratislava, Slovakia (7/1998)

3/ PDE inhibitors as an emerging therapy of multiple sclerosis. Platform presentation at 51st Annual meeting of American Academy of Neurology; Toronto, Canada (4/1999)

4/ Immunotherapy of multiple sclerosis. Invited speaker at 3rd Neuropharmacology Symposium of the Slovak Neurological Society, Bratislava, Slovakia (6/1999)

5/ Antigen-specific immunomodulation confirms the encephalitogenic potential of myelin basic protein peptide (83-99) in multiple sclerosis. Platform presentation at 52nd Annual meeting of American Academy of Neurology; San Diego, California, USA (5/2000)

6/ Neurology clinical grand rounds: Differential diagnosis: CNS lymphoma or demyelinating disease – a case report. NINDS, NIH (9/29/2000)

7/ Immunoreactivity to different autoantigens in MS patients influences their disease phenotype. International Society of Neuroimmunology - Sixth International Congress, Edinburg, Scottland (9/5/2001)

8/ Responses to an altered peptide ligand of MBP in patients with MS. International Society of Neuroimmunology - Sixth International Congress, Edinburg, Scottland (9/6/2001)

9/ Immunotherapy of Multiple Sclerosis. Neurology grand rounds; Boston University School of Medicine, Boston, MA, USA (11/6/2001)

10/ Immunoreactivity to myelin epitopes differs between MS patients subgrouped based on MRI and clinical characteristics of the disease. Platform presentation at 54th Annual meeting of American Academy of Neurology; Denver, Colorado, USA (4/17/2002)

11/Antigen specific T cells in MS – their relationship to disease activity and heterogeneity. Seminar at Harvard Institutes of Medicine, Boston, MA, USA (6/4/02)

12/ Immunotherapy of Multiple Sclerosis. Ground rounds at Loyola University medical Center, Maywood, IL, USA (7/12/02)

13/ Combination therapy of MS patients with incomplete response to Interferon-beta with humanized antibody against the interleukin-2 receptor alpha chain. Platform presentation at ACTRIMS-ECTRIMS 2002 Annual Meeting, Baltimore, MD, USA (9/18/2002)

14/ Research focus on finding new therapies for Multiple Sclerosis. Presentation for MS forum of Georgetown University, Bethesda, MD, USA (10/5/02)

15/ Heterogeneity of MS: Dominant antigen-specificity of autoreactive CD4+ T cells influences MRI and clinical phenotype of the disease. Selected talk at NIH-wide Immunology Retreat, Arlie, VA, USA (10/29/02)

16/ Mechanism of action of Multiple Sclerosis treatment by Zenapax, a humanized monoclonal antibody against the interleukin-2 receptor alpha-chain. Platform presentation at 2003 AAN annual meeting, Hawai, USA (4/3/2003)

17/ Co-chair: Scientific Session MS: Therapeutics I; 2003 AAN annual meeting, Hawai, USA (4/2/2003)

18/ Faculty teaching at AAN educational course: Neurology update II: New advances in MS. 2003 AAN annual meeting, Hawai, USA (4/4/2003)

19/ Mechanism of Action of Daclizumab, a Humanized Monoclonal Antibody against CD25 in the Treatment of MS. Platform presentation at FOCIS meeting in session: Immunotherapy – Clinical Trials. Paris, France (5/19/2003)

20/ Mechanism of Action of Daclizumab, a Humanized Monoclonal Antibody against CD25 in the Treatment of MS. Invited speaker for Seminar of Metabolism Branch/DCBDC/NCI, Bethesda, USA (6/30/03)

21/ Mechanism of action of Daclizumab in MS – unforeseen observation elucidates regulatory mechanisms in the disease process. Grand Rounds at Neurology Department, Boston University School of Medicine, Boston, MA, USA (11/4/2003)

22/ Advances in MS research. Educational night for the residents of Montgomery County sponsored by National MS Society. Bethesda, MD, USA (11/12/2003)

23/ Mechanism of action of Daclizumab in Multiple Sclerosis. Invited speaker for the clinical/scientific seminar of the National Eye Institute/NIH. Bethesda, MD, USA (3/26/2004)

24/ Co-chair: Biomarkers in Multiple Sclerosis. International workshop organized by NIH and National MS Society. Washington, DC, USA (4/14-16/2004)

25/ Potential role for biomarkers in MS. Lecture at International workshop "Biomarkers in Multiple Sclerosis". Washington, DC, USA (4/15/2004)

26/ NK cells mediate immunomodulatory effects of IL-2Rα-targeted therapy in Multiple Sclerosis. Neuroscience seminar, Wash University, Saint Louis, USA (5/9/2004)

28/ Unexpected immunomodulatory mechanism of IL-2Rα-targeted therapy in multiple sclerosis. Seminar of the department of Neurology, University of Cincinnati, Ohio, USA (9/22/2004)

29/ $CD56^{bright}$ NK cells mediate immunomodulatory effects of IL-2Rα-targeted therapy in multiple sclerosis. International Society of Neuroimmunology Seventh International Congress, Venice, Italy (10/2/2004)

30/ Practical relevance of cytokines and other immunological markers in MS. ECTRIMS teaching course 4, Vienna, Austria (10/6/2004)

31/ NK cells mediate immunomodulatory effects of IL-2Rα-targeted therapy in Multiple Sclerosis. Invited speaker for NIH wide Immunology Interest Group seminar, Bethesda, MD, USA (10/28/2004)

32/ Unexpected immunomodulatory action of NK cells revealed by IL-2Rα-targeted therapy in Multiple Sclerosis. Imunobiology/microbiology Grand Round, University of Chapel Hill, NC, USA (10/14/2005)

33/ MS 2005: What we (do not) know about the disease. Neurology Grand Round, Boston University, MA, USA (10/18/05)

34/ MS 2005: What we (do not) know about the disease. Neurology Grand Round, University of Cincinnati, OH, USA (11/30/05)

35/ Daclizumab therapy in Multiple Sclerosis reveals unexpected regulatory role of NK cells on adaptive immune responses. Immunohematology Seminar at Cincinnati Children's Hospital Research Foundation, Cincinnati, OH, USA (12/12/05)

36/ Daclizumab. 9^{th} Annual MS Scientific Update. Biogen Idec National Faculty Meeting 2006, Fort Mayers, FL, USA (1/29/06)

37/ Multiple Sclerosis Basic Science. Part of 2006 MS Academy sponsored by Ohio chapter of the National MS Society. Florence, KY, USA (2/2/06)

38/ Genetics of Multiple Sclerosis. 2006 North American Patient Education Conference sponsored by National MS Society, Covington, KY, USA (4/20/06)

39/ New approaches to treatment of Multiple Sclerosis. 2006 College of Medicine Reunion lecture, University of Cincinnati, Cincinnati, OH, USA (5/19/06)

40/ Daclizumab therapy in Multiple Sclerosis reveals unexpected regulatory role of NK cells on adaptive immune responses. Invited speaker at the Whittacker science track, 20^{th} Annual meeting of the Consortium of MS Centers, Scottsdale, AZ, USA (6/2/06)

41/ Genetics of Multiple Sclerosis. 2006 North American Patient Education Conference sponsored by National MS Society, Louisville, KY, USA (6/22/06)

42/ Daclizumab therapy in Multiple Sclerosis reveals unexpected regulatory role of NK cells on adaptive immune responses. Invited speaker at the Rare Neuroimmunologic Disorders Symposium, Baltimore, MD, USA (7/23/06)

43/ Successful Therapy of Multiple Sclerosis (MS) Targeting High Affinity IL-2 Receptor Reveals Regulatory Role of $CD56^{bright}$ NK cells on T cell Responses in Humans. The 8th International Conference of Neuroimmunology, Nagoya, Japan (11/17/06)

44/ Multiple Sclerosis. Physical and Rehabilitation Medicine Grand Round, University of Cincinnati, OH, USA (5/4/07)

45/ Use of Daclizumab in Multiple Sclerosis. Invited speaker at ACTRIMS plenary session, Washington DC, USA (6/2/07)

46/ Multiple Sclerosis 2007: What we (do not) know about the disease and novel strategies to close the gap. VU University Medical Center, Department of molecular biology and immunology, Amsterdam, Netherland (6/15/07)

47/ What can the outcomes of immunomodulatory therapies teach us about MS disease process? University of Michigan Multiple Sclerosis Center, Holtom-Garrett lecture in Neuroimmunology, Ann Arbor, MI, USA (11/9/07)

48/ Treatment of MS patients with selective PDE-4 inhibitor Rolipram inhibits Th1/Th17 T cell responses but fails to inhibit brain inflammatory activity. Platform presentation at 2008 AAN annual meeting, S22:001, Chicago, IL, USA (4/16/08)

48/ MS Immunology II: Co-chair of the scientific session at the 60th AAN annual meeting with Dr. Bernhard Hemmer, Chicago, IL, USA (4/16/08)

50/ Multiple Sclerosis: Immunology/pathology and molecular biology highlights from the 60th AAN annual meeting. Platform presentation at the 60th AAN annual meeting, Chicago, IL, USA (4/16/2008)

51/ Multiple Sclerosis 2008: What we (do not) know about the disease. NIH Rehabilitation Service Grand Round, NIH, Bethesda, MD, USA (5/16/08)

52/ What can failed clinical trials teach us about MS disease process? NINDS retreat, NIH, Arlie, VA, USA (5/19/08)

53/ Mechanism of action of CD25 blocking antibody in Multiple Sclerosis. Emerging Cytokine-based Therapies. FOCIS satellite symposium, FOCIS, Boston, MA, USA (6/5/08)

54/ What can failed clinical trials teach us about MS disease process? Neuroscience lecture series, Children's National Medical Center, Washington DC, USA (6/19/2008)

55/ What can neurology patients teach us about human immune system: A fascinating story of one cytokine and two presentations. NINDS grand round, NIH, Bethesda MD, USA (10/7/08)

56/ New advances in understanding MS disease process and their translation into new therapies for MS patients. MS patient talk organized by National MS Society, Rockville, MD, USA (10/18/08)

57/ DC-mediated transpresentation of IL-2 via CD25 is important for human T cell activation, whereas CD25 expression on activated T cells limits T cell survival. Experimental Immunology Branch seminar, NCI, Bethesda, MD, USA (11/3/08)

58/ Mechanism of action of monoclonal antibodies in MS: natalizumab, rituximab, alemtuzumab and daclizumab. Invited speaker. MS therapy roundtable (selected experts in the field), Dallas, TX, USA (2/28/09)

59/ CD25, a molecule linked to MS susceptibility, has important effects on initiation and termination of T cell responses in humans. Platform presentation at the AAN annual meeting, Seattle, WA, USA (4/28/09)

60/ MS Immunology III: Co-chair of the scientific session at the 61st AAN annual meeting with Dr. Alexandre Pratt, Seattle, WA, USA (4/30/09)

61/ Multiple Sclerosis: translating from animal models to human disease. Neuroscience postgraduate course at Uniform Services University (USU), Bethesda, MD, USA (5/12/09)

62/ Mechanism of action of CD25 blocking antibody in multiple sclerosis. Invited speaker. Consortium of MS Centers (CMSC) annual meeting, Atlanta, GA, USA (5/28/09)

63/ Different roles for biological markers in MS research and clinical care. Invited speaker. Top seminars in MS, Baveno, Italy (6/6/09)

64/ Can biomarkers help us to select optimal therapy for our patients? Invited speaker. Top Seminars in MS, Baveno, Italy (6/6/09)

65/ Unexpected complex immunomodulatory effects of daclizumab (anti-CD25 Ab) on the human immune system. Invited speaker. NIH Immunology Interest group retreat, Gettysburg, PA, USA (9/23/09)

66/ IL-2 receptor alpha (CD25)-targeting therapy reveals complex and unexpected roles for IL-2 in human immune system. Invited speaker. NIH Research Festival, Bethesda, MD, USA (10/7/09)

67/ New advances in understanding MS disease process and their translation into new therapies for MS patients. Invited speaker. MS society – Delaware Chapter Annual Meeting 2009, Wilmington, DE, USA (10/24/09)

68/ Mechanism of action of monoclonal antibodies in therapeutic development for MS. Neurology Grand round, Bethesda, MD, USA (11/17/09)

69/ Mechanism of action of monoclonal antibodies in therapeutic development for MS: Natalizumab, Rituximab, Alemtuzumab and Daclizumab. Invited speaker. Slovak Neurological Congress, Bratislava, Slovakia (11/28/09)

70/ Vaccination: Antigen-specific therapies for MS. Invited Speaker. Research symposia in Neurology, Bergamo, Italy (4/9/2010)

71/ MS: Genetics and human immunopathogenesis: Co-chair of the scientific session S30 at the 62nd AAN annual meeting with Dr. Bernhard Hemmer, Toronto, Canada (4/14/2010)

72/ Pathophysiology of progressive stage of MS. Invited speaker. CME program for Neurology Education Network. Silver Spring, MD, USA (5/19/2010)

73/ Daclizumab: Mechanism of action. Invited Speaker. Monoclonal antibodies in MS symposium. Consortium of MS Centers (CMSC) Annual Meeting, San Antonio, TX, USA (6/3/2010)

74/ Monoclonal antibodies in therapeutic development for MS. Invited speaker. MS update symposium organized by Imperial College of London. London, UK (6/9/2010)

75/ Immunotherapy of MS. Invited speaker. Imperial College London Neurology Grand Round. London, UK (6/11/2010)

76/ Unexpected mechanism of action of CD25 blocking Ab (daclizumab) in Multiple Sclerosis. Invited speaker. NIH Comparative Biomedical Scientist Training Program (CBSTP) Scientific Symposium and Retreat. Bethesda, MD, USA (9/9/2010)

77/ Pathophysiology of Progressive Stages of MS. Invited speaker. George Washington University Department of Neurology Grand Round. Washington, DC, USA (10/5/2010)

78/ Enigma of progressive MS: Can we progress to therapies faster? NINDS Grand Round, joint

presentation with Daniel Reich, MD. Bethesda, MD, USA (2/8/2011)

79/ MS: Updates on current therapeutics: chair of the session, Keystone Symposia on Molecular and Cellular Biology: Genetics, Immunology and Repair in Multiple Sclerosis. Taos, New Mexico, USA (2/172011)

80/ Multiple sclerosis: A paradigmatic Neuroinflammatory disease?. Invited speaker. American Society for Experimental NeuroTherapeutics (ASENT) 13th Annual Meeting, Bethesda, MD, USA (2/25/2011)

81/ Multiple Sclerosis: An autoimmune dilemma. NIH Demystifying Medicine Series. Bethesda, MD, USA (3/1/2011)